



NANOG[®]

2023

Annual Report

North American
Network Operators'
Group

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Who We Are

Working together to build the Internet of tomorrow®

We offer multiple ways to meet and learn from others working or studying in your field.

Since its earliest inception in 1987, The North American Network Operators' Group (NANOG) has been committed to the ongoing advancement of an open, secure, and robust Internet, by providing a platform that inspires, educates, and empowers our community to meet the ever-changing demands of a global network, in service of building the Internet of tomorrow.

Mission

We're dedicated to the ongoing advancement of an open, secure, and robust Internet, by inspiring, educating, and empowering our community to meet the ever-changing demands of a global network.



Board of Directors



Board Responsibilities

The NANOG Board is responsible to the NANOG membership ensuring that the NANOG organization remains open, relevant, useful and financially sound. The Board works closely with the Committees to promote, support, and improve NANOG

In January 2023, the NANOG board discussed long-term goals to guide the organization back to sustainable footing in the post-pandemic reality. Through the first half of 2023, the Board refined the framework of goals, and identified specific targets for 2023.

Members of the Board

- Leslie Daigle, Chair + Compensation Committee
- Vincent Celindro, Vice Chair + Liaison to Audit Committee and Mentorship Committee
- Dave Siegel, Treasurer + Compensation Committee, and Liaison to Education Committee
- Cat Gurinsky, Secretary + Program Committee Chair (through October 2023)
- Tina Morris, Member + Compensation Committee and Liaison to DEI Committee
- Steve Feldman, Member + Compensation Committee, and Liaison to Program Committee, Election Committee, and Hackathon Committee
- Michael Costello, Member + Liaison to Scholarship Committee
- Edward McNair, Member + Executive Director (through September 2023)

Board Actions 2023



Strategic Goals 2023

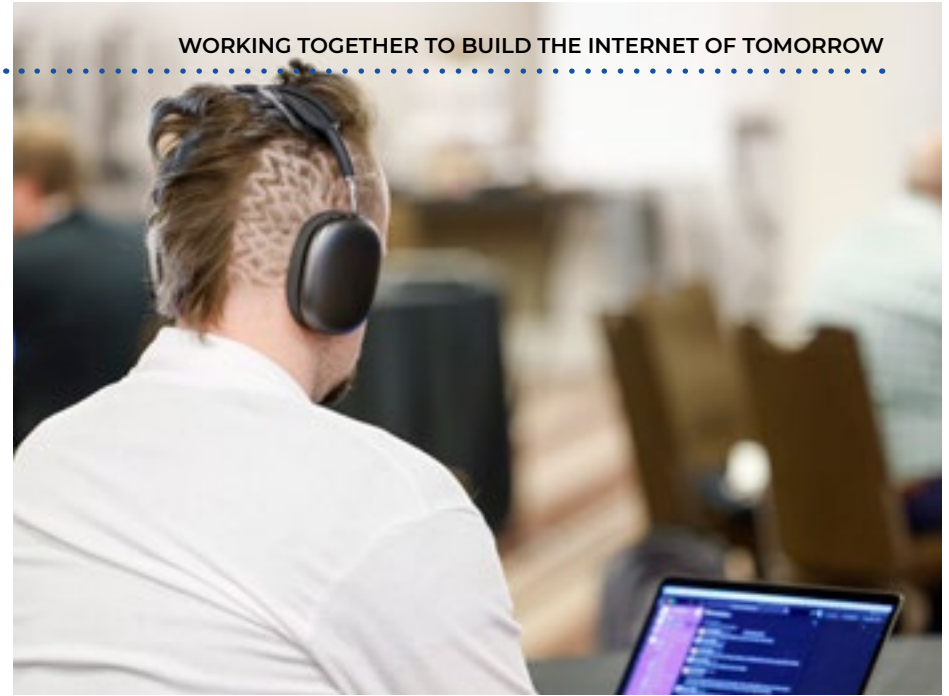
In January 2023, the NANOG board discussed long term goals to guide the organization back to sustainable footing in the post-pandemic reality. Through the first half of 2023, the board refined the framework of goals, and identified specific targets for 2023.

The following NANOG organizational goals were drafted in January 2023, refined through the first half of the year, and agreed upon by the board in June 2023.

Mission

- Evolve the digital transformation progress
 - Written articulation of the vision of our digital transformation: NANOG 2028, including description of the import and strategy to advance:
 - Knowledge base
 - Support for member/audience communications
 - Digital platform and purpose
- Define committee pillars (5 year goals)
 - Meet with committee leadership to establish board-committee plan for evolving NANOG over the next 5 years, together

WORKING TOGETHER TO BUILD THE INTERNET OF TOMORROW



Funding

- Follow up 2022 goal of finding patrons
- Make the hackathon cost neutral

Operational excellence

- Sponsorship management tool delivered
- Digital platform (NOG tools)
- Knowledge base
- Support for meeting attendees (table rental, meeting tool, etc)
- Support for participants' digital communications and engagement

Balance Sheet 2023

Statement of Financial Position		
December 31	2023	2022
Assets		
Current Assets:		
Cash and cash equivalents	\$418,754	\$557,067
Investments	2,394,825	2,916,645
Accounts receivable	307,666	168,500
Prepaid expenses	245,088	157,985
Total current assets	3,366,333	3,800,197
Equipment and technology, net	266,760	369,111
Total assets	\$3,633,093	\$4,169,308
Liabilities		
Current liabilities		
Accounts Payable	\$3,493	\$0
Deferred revenue	802,214	978,527
Total liabilities	805,707	978,527
Net Assets		
With donor restrictions	0	30,000
Without donor restrictions:		
Undesignated	1,325,443	2,123,778
Designated for future meeting commitments	1,501,943	1,037,003
Total net assets	2,827,386	3,190,781
Total liabilities and net assets	\$3,633,093	\$4,169,308

Income/Expenditures

2023

Statement of Activities		
	2023	2022
Operating revenues		
Membership Dues	\$67,312	\$59,358
Meeting sponsorships	1,815,953	1,533,501
Meeting fees	1,371,964	1,058,600
Other program income	26,891	83,287
Interest and dividend income	138,099	128,491
Contributed non-financial assets and services	38,400	38,400
Total operating revenues	3,458,619	2,901,637
Operating expenses		
Program services:		
Meetings	3,067,474	2,562,949
Other programs	101,830	87,321
Total program services	3,169,304	2,650,270
Supporting services		
Management and General	792,392	650,511
Total operating expenses	3,961,696	3,300,781
Change in net assets from operating activities	(503,077)	(399,144)
Non-operating activities		
Net investment return	139,682	(508,072)
Change in net assets	(363,395)	(907,216)
Net assets as of beginning of year	3,190,781	4,097,997
Net assets as of end of year	\$2,827,386	\$3,190,781

Registration Report 2023

Registration			
	Total In Person	Total Virtual	First Time Attendee
87 Atlanta February	710	164	26% 202
88 Seattle June	872	94	22% 209
89 San Diego October	738	102	20% 176

Employment Demographics					
	Students	Junior/ Int Level	Senior Level	Executive Level	Total
87 Atlanta February	2% 19	16% 124	58% 445	23% 177	765
88 Seattle June	4% 33	16% 139	60% 506	20% 165	843
89 San Diego October	2% 14	19% 142	59% 442	20% 154	752

Organization Demographics						
	Vendor	Service Provider	Non Profit	IX Operator	Other	Total
87 Atlanta February	10% 85	26% 214	42% 347	11% 88	10% 85	819
88 Seattle June	23% 221	46% 442	9% 89	15% 142	7% 72	966
89 San Diego October	21% 174	40% 337	11% 96	19% 156	9% 76	839

2023 NANOG MEETINGS AT A GLANCE

NANOG 87 - Atlanta, GA - 13-15 February, 2023

874 TOTAL ATTENDEES	164 VIRTUAL REGISTRATIONS	710 IN-PERSON REGISTRATIONS	250 MEMBER REGISTRATIONS	448 NON-MEMBER REGISTRATIONS	12 STUDENT REGISTRATIONS	202 FIRST NANOG	12.4% WOMEN IN ATTENDANCE 108
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NANOG 88 - Seattle, WA - 12-4 June, 2023

966 TOTAL ATTENDEES	94 VIRTUAL REGISTRATIONS	872 IN-PERSON REGISTRATIONS	233 MEMBER REGISTRATIONS	624 NON-MEMBER REGISTRATIONS	15 STUDENT REGISTRATIONS	209 FIRST NANOG	14.8% WOMEN IN ATTENDANCE 143
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NANOG 89 - San Diego, CA - 16-18 October, 2023

840 TOTAL ATTENDEES	102 VIRTUAL REGISTRATIONS	738 IN-PERSON REGISTRATIONS	232 MEMBER REGISTRATIONS	494 NON-MEMBER REGISTRATIONS	12 STUDENT REGISTRATIONS	176 FIRST NANOG	13.9% WOMEN IN ATTENDANCE 117
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Meeting Sponsors

2023

Whether you are signing on for a Premium or Meeting Host sponsorship, securing a booth at Beer n' Gear, or supporting community networking via the Espresso Bar or Network Lounge, there are many opportunities to show support of NANOG's programs and our community.

In 2023, 82 different companies sponsored NANOG meetings, investing in the strength of the community we've built. By showcasing their innovations, they inspire problem-solving and new approaches to network operations.

Premium Sponsors:

- **Diamond:** Internet Tool & Die Company
- **Platinum:** ARIN, AWS, Ciena, Equinix
- **Gold:** BlueCat Networks, F5, Imperva, QTS, Telstra, Verisign

Individual Meeting Sponsors:

- | | |
|---------------------|---------------------------|
| • Adtran* | • Charter Communications* |
| • Akamai* | • Choice IT Global* |
| • Approved Networks | • Cisco* |
| • Arelion* | • CIX |
| • Arista Networks* | • Cloudflare* |
| • AT&T | • Cogent |
| • Augtera Networks | • Console Connect |
| • AWS* | • Corero* |
| • Bandwidth IG | • Crown Castle |

- | | |
|-------------------------|-------------------------|
| • DE-CIX | • NetScout* |
| • Deft* | • Neutral Networks |
| • Digital Realty | • Nexusguard |
| • EdgeConneX | • Nokia* |
| • Equinix | • NTT* |
| • EXA Infrastructure* | • Opendgear* |
| • ExaSwitch | • Path Network |
| • EXFO | • Precision Optical* |
| • Flexential* | • QTS* |
| • Fortinet* | • Ribbon Communications |
| • Forward Networks | • RocNet Supply |
| • H5 Data Centers | • SEGRA* |
| • Infoblox | • Selector AI |
| • IPv4.Global* | • Shoc Networks |
| • Iron Mountain | • Smartoptics* |
| • ISC* | • Team Cymru |
| • ISOC | • ThousandEyes* |
| • Itential | • TierPoint |
| • JPIX* | • TOWARDEX |
| • Juniper Networks* | • Uniti* |
| • Kentik* | • Viavi Solutions* |
| • LightRiver | • Windstream Wholesale |
| • MDC Data Centers | • XKL* |
| • Meraki by Cisco* | • Zayo |
| • Merit* | • Ziply Fiber |
| • Microsoft Corporation | • ZPE Systems |
| • MOX Networks | |
| • Myriad 360* | |
| • Nesevo | |

* - multi-meeting sponsor

Program Committee

PC Responsibilities

The Program Committee (PC) is responsible for the programs at all NANOG meetings and events. The PC aims to schedule around 1,600 minutes per meeting (4,800 minutes per year). The PC drafts “Calls for Presentations,” soliciting presenters for submissions, and selects content for over 80 hours of programming every year.

During 2023, the PC worked to review 222 submissions, of which 89 were accepted for presentations. The PC also secured Keynote presentations for each meeting in 2023. They additionally took steps in 2023 to start strategically looking at specific sectors of network operations to secure content that would flow through the entire three days of each meeting.

	Total Community Submissions	Accepted Talks	Keynotes
87 Atlanta February	75	23	Elad Nafshi + Michael Bailey
88 Seattle June	71	30	Len Bosack
89 San Diego October	76	36	John Curran + Anshul Sadana

Program Committee Leadership

- Cat Gurinsky, Chair - Apple Inc.
- Stevan Plote, Vice Chair - Plote & Associates
- Chris Woodfield, Secretary - DriveNets
- Valerie Wittkop, Program Director - NANOG

2023 Program Committee Members

- Melchior Aelmans - Juniper
- Kam Agahian - Oracle
- Aaron Atac - Akamai
- Phil Bedard - Cisco
- Jason Bothe - Moody's Corporation
- Dan Chioreanu - Apple
- Kate Gerry - NetActuate, Inc
- Mikael Holmberg - Extreme Networks
- Marcus Holt - JMF Solutions
- Manish Krishnan - Google
- John Kristoff - NETSCOUT
- Nimrod Levy - AT&T
- Marlin Martes - Amazon Web Services
- Fearghas Mckay - FLEXOPTIX GmbH
- Sergey Myasoedov - NetArt Group
- Charles Rumford - Deft
- James Shank - SpyCloud
- Mike Starr - trackd
- Adair Thaxton - Internet2
- Steve Ulrich - Arista Networks
- Michael Voity - University of Vermont
- Les Williams - Amazon Web Services

Hackathon Committee

2023 Hackathon Sub-Committee of the Program Committee

The Hackathon Sub-Committee plans and implements the NANOG Hackathon for industry professionals at all skill levels to learn about network automation, software development and other related topics.

NANOG Hackathon 87 - Atlanta, GA February 11-12, 2023

Topic: Interacting with Sources of Truth

Participants used Sources of Truth, whether from a single database or a collection of correlated data from multiple sources to develop a feature, fix a bug for an existing open-source solution, or roll their own hack!

NANOG Hackathon 88 - Seattle, WA June 11, 2023

Topic: Interacting with Sources of Truth v2.0

Continuing the topic from February - participants further developed/ fixed/created hacks with Sources of Truth.

NANOG Hackathon 89 - San Diego, CA October 18, 2023

A community discussion forum was held to discuss the desires and needs of the NANOG community for a Hackathon reboot in 2024.

Hackathon Sub-Committee Members

- Aaron Atac, Co-Chair
- Kate Gerry
- Fearghas McKay, Co-Chair
- Charles Rumford
- Steve Ulrich
- Chris Woodfield



Ad-Hoc Committees

2023

Audit Committee

The purpose of the Audit Committee is to assist the Board of Directors in fulfilling its oversight responsibilities concerning the financial reporting process, the system of internal controls, the audit process, and NANOG processes for monitoring compliance with laws and regulations. The Audit Committee appoints an independent auditor.

In 2023, the Audit Committee received the independent Auditor Report, and after review submitted it to the Board of Directors for acceptance.

Audit Committee Members

- Charles Rumford
- Alan Hannan
- Dave Siegel



Diversity Equity and Inclusion Committee

The DEI (Diversity Equity and Inclusion) Committee is designed to support, engage and encourage diversity and acceptance within the greater NANOG community.

2023 was the inaugural year of the DEI Committee. Holding events focused on diversity, equity, and inclusion for NANOG 88 and NANOG 89, the committee members started to build the platform that future activities will be built upon.

Diversity Equity + Inclusion Committee Members

- | | |
|----------------------|-----------------------|
| • Evan Breznyik | • Giulia Reading |
| • Future Cain | • Charles Rumford |
| • Kate Gerry | • Alejandro Silvestre |
| • Stephen Hartman | • Anna Valsami |
| • Marcus Holt | • Clara Wade |
| • T.Marc Jones | • Akeyla Wallace |
| • Louie Lee | • Christoph Weisbrod |
| • Marlin Martes | • Les Williams |
| • Tina Morris, Chair | |



Education Committee

The purpose of the Education Committee is to lead NANOG's efforts in the development of educational programs and its related curriculum.

The Committee will guide NANOG's developed educational programs aimed at professional development and educational programs with the mission of supporting college students, and any other educational programs outside of those developed by the Program Committee.

Education Committee Members

- Hosein Badran
- Jeff Bartig
- Dr. Sanjay Basu
- Alex Bortok
- Ron Kovac, Chair
- Saju Abdul Razak Salahudeen
- Alejandro Silvestre
- Reddy Urimindi

Elections Committee

The purpose of the Elections Committee is to assist the Board of Directors by conducting elections for NANOG Board positions, proposed amendments to governing documents, and to conduct any other election-related matters as directed by the NANOG Board. The Election Committee is to review the NANOG Bylaws periodically.

In 2023, the Elections Committee moved NANOG to a ranked-choice voting system. The results of that election process are as follows:

- Eligible voters: 762
- Total votes cast: 230
- Elected: Cat Gurinsky, Vincent Celindro

There were no Bylaw amendments in 2023.

Elections Committee Members

- Calin Miculescu
- Mauricio Rodriguez
- Leif Sawyer
- Tony Tauber
- Inga Turner
- Leo Vegoda, Chair

Mentorship Committee

The purpose of the Mentorship Committee is to make Mentorship program recommendations to the NANOG Board for consideration and final approval.

In 2023, the Mentorship Committee outlined the method for requesting and assigning mentors, as well as starting to build a program for supporting new attendees at NANOG Meetings.

Mentorship Committee Members

- Ron Grant
- Manish Krishnan
- Alex Latzko
- Wendy Leedy
- Craig MacKinder
- Matthew Petach
- Reddy Urimindi



Scholarship Committee

The purpose of the Scholarship Committee is to review and select recipients of the NANOG scholarships offered each year.

In 2023, the Committee reviewed the top 12 applications as provided from NANOG's scholarship administration contractor and selected the following four recipients.

Nate Sales, Worcester Polytechnic Institute, Major: Computer Science.

Jason Zheng, Binghamton University, Major: Computer Science.

Arisa Chue, Stanford University, Major: Computer Science.

Any Yelaya Delgado, University of Texas, Major: Computer Science.

Scholarship Committee Members

- Jeff Budney
- Michael Costello
- Tony Tauber

Social Media Posts 2023

Review the most engaged posts of 2023.

Thank you! Your support via clicked links, shares, and comments enables our content to stay relevant.

Social media algorithms function by promoting “engaged” content. When you engage with our social media, you ensure our community sees important NANOG news updates and stays connected.

Stay connected to NANOG

Social Media Posts

2023

Community Voices

Overheard at NANOG...

"Following the NANOG 85 meeting, I was thinking about ways to better interact with the audience in terms of content. There is a lot of great informational content, but we could offer something more fun while being educational. And what better way to provide an entertaining snack for our quizzical attendees, than an updated format to create NANOG Jeopardy!"

- Charles Rumford

"The power of the "back-of-the-napkin" solution breakthroughs that can occur during NANOG Socials are underrated."

- Les Williams

"One of the highlights of any NANOG meeting is Beer N' Gear."

- Justin Ryland

"What I've found most surprising is that most people don't have a straightforward path to tech. Everybody has different backgrounds. If you can get over the shame or guilt of feeling like 'I'm the only one that got here this way,' people will start to respect and mentor you."

- Martes Marlin

"The health of the Internet is very dependent on having engaged and informed technical operations communities. The fact that NANOG is a community and not just a conference, underscores that NANOG can help foster trusted relationships between operators and provide timely and pertinent information resources about the current realities of Internet working."

- Leslie Daigle

"In the end, students walked away with a better understanding of what happens when they turn on their phone, open an app, and exchange information with a platform (like Snapchat)." Whether they go on to be engineers, teachers, government officials, sailors, or anything else, they better understand how Internet infrastructure works, and that information empowers them to better understand the world they live in."

- David Hubberman

"My favorite NANOG 87 memory was, without a doubt, Moira Johnson's Lightning Talk, 'My first professional conference.' I can't imagine how much courage it must have taken her, at 18 years old, to get up on that stage and open up the way she did. I won't lie; tears were shed! As a woman in tech, I saw myself in her words."

- Anna Valsami

"An under-appreciated aspect of our digital infrastructure is how dependent we are on time...A synchronized view of the time is essential to the Internet's service platform."

- Geoff Huston

"I've met some amazing women who have offered to connect + help guide me in my career."

- Casey Inman

Newsworthy Mentions

The NANOG Newsletter is your way to stay connected to upcoming meeting announcements and the latest community news and stories.

Most engaged stories

Experience NANOG 88

Watch a highlight reel of our most recent meeting, NANOG 88 + experience what makes our conferences special.

Subscribe to our newsletter



ABQNOG First Meeting a Success!

“Every NOG Has Left Me with New Info, New Business Contacts, and New Friends”

The first ABQNOG conference, serving the Southwest region of the United States, occurred on 4, May, 2023 at the African American Pavilion in Albuquerque, NM.

From an African Refugee to an American Techie

A (Tech) Road Less Traveled with AWS's Les Williams

Les Williams was interviewed as part of NANOG's "Road Less Traveled" blog series. The article series has given voice to the "round pegs in the square holes" community members that unexpectedly found success in a tech career.

Creating Global Connectivity by Connecting Globally

CaribNOG 25 Empowers Under-served Students + Inspires Community

The CaribNOG 25 event was part of Grenada ICT Week (1 - 3 Mar.) in the island country of Grenada, and provided practical strategies and knowledge to help accelerate Internet-enabled development in under-served communities.

WE COULDN'T HAVE DONE IT WITHOUT YOU

Our success depends in large part on the support of individuals and organizations who believe in our mission-critical programs and initiatives.

Your support in 2023 helped us continue our work in the service of advancing an open, secure, and robust Internet, by educating, empowering, and inspiring our community to meet the ever-changing demands of a global network.



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